APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000T8
Revision No:
2

This is to certify:

That

YCP Co., Ltd.
74 Dasan-ro Saha-gu Busan,
Republic of Korea

is an approved manufacturer of
Steel Pipes and Fittings

in accordance with
DNV rules for classification – Ships

and the following particulars:

Product	**Pipes**
Application area	**Pipes for pressure systems,** **Pipes for low-temperature service**
Steel type	**Carbon and carbon-manganese**
Manufacturing method	**Seamless**
Max. outer diameter	**60 mm**
Max. wall thickness	**9 mm**
Heat treatment condition	**See page 2**
Remarks	**Approved as Independent Heat Treatment Company,** **See page 3**

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules.
Materials to be applied to DNV classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2022-08-15**

This Certificate is valid until **2025-06-30**.
DNV local station: **Busan**

Approval Engineer: **Torben Schälicke**

for **DNV**

Digitally Signed By: Wenning, Martin
Location: DNV Hamburg, Germany
Signing Date: 17.08.2022 , on behalf of

Thorsten Lohmann
Head of Section

Particulars of the approval

Pipes for pressure systems

Steel type [3) 4) 5)]	Manufacturing method [1)]	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition [2)]
C and C-Mn	CFS	60	9	N, NT

Pipes for low-temperature service

Steel type [3) 4) 5)]	Manufacturing method [1)]	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition [2)]
C and C-Mn	CFS	60	9	N, NT

Boiler and superheater tubes

Steel type /grade [6)]	Manufacturing method [1)]	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition [2)]
C and C-Mn	CFS	60	9	N, NT
Alloy	CFS	60	9	N, NT

Remarks:

1) CFS: cold finished seamless
2) N: Normalised
   NT: Normalised and tempered
3) Pipes for pressure systems
   Suitable pipe grades shall be selected from the following recognized standards:
   ISO 9329 Parts 1 and 2, ISO 9330 Parts 1 and 2, EN 10216 Parts 1 to 3, EN 10217 Parts 1 to 3, EN 10305 Part 1 and 2, ASTM A53, ASTM A106, ASTM A135, ASTM A 179, ASTM A335, JIS G3454, JIS G3455, JIS G3456 or JIS G3458
4) Pipes for low-temperature service
   Suitable pipe grades shall be selected from the following recognized standards:
   ISO 9329 Part 3, ISO 9330 Part 3, EN 10216 Part 4, EN 10217 Part 6, ASTM A333, ASTM A334 or JIS G3460
5) Boiler and superheater tubes
   Suitable pipe grades shall be selected from the following recognized standards:
   ISO 9329 Part 2, ISO 9330 Part 2, EN 10216 Part 2, EN 10217 Part 2, ASTM A178, ASTM A209, ASTM A210, ASTM A213, JIS G3461, JIS G3462 or JIS G3463
6) Incl. equivalent grades in acc. to other standards

Special conditions:

Including automatic UT / ET testing in lieu of hydraulic testing according to relevant standard

Approval details of in-house heat treatment facility

Item	Description
Product type	Carbon steel tubes
Steel Type	Carbon alloy steel
Maximum Loading Weight	60.1kg
Max. Thickness	3.0mm
Heat Treatment Type	Annealing, Normalizing
Furnace Details	Continuous Conveyance type Identification: 3 area Heat treatment furnace Working zone (mm) : Length 13,755, Width 1,000, Height 50
Heat Treament Procedure	Doc. No. YCP-DNVGL-001 Rev.5 dtd. 2020-10-15
Temperature Uniformity Survey Procedure	Doc. No. TUS-YCP-DNVGL-001 Rev.3 dtd. 2020-10-15